

## 9 Summary

This study deals with peripheralization in Austria and with its implications for innovative firms. The focus lies on rural and peripheral areas, which are challenged to create attractive jobs through innovation, but which usually have limited resources in this regard. Through research innovation in peripheral areas, this study pursues a new perspective in the geography of innovation, which deals mainly with clusters, agglomerations and urban milieus.

In a first step, the 95 districts of Austria are analysed using secondary data for 18 indicators that shed light on the degree of peripheralization, which allows conclusions on regional potentials as well as on challenges. This quantitative analysis is the basis for the subsequent interviews with 20 innovative firms engaged in manufacturing or IT services and located in various rural areas in Austria. The survey was conducted during the second half of 2018 and enriches the analysis of the regional preconditions by adding an individual perspective. Therefore, the combination of both quantitative and qualitative methods allows for a detailed view on the geography of innovation in Austria.

### **The degree of peripheralization in Austria**

Four dimensions of peripheralization are analysed: Geographical accessibility, demographic development, economic development, and knowledge intensity. The analysis of the last dimension follows the approach of differentiated knowledge bases and distinguishes between the synthetic knowledge base (qualifications are obtained on-the-job, with a focus on experimental development) and the analytical knowledge base (qualifications are acquired through academic programmes, the focus is on basic research). In using the approach of peripheralization, this study goes beyond the classical approach of core and periphery, which depends mainly on population density.

Central areas and districts along important transport axes display better preconditions for innovation than those in alpine areas or along borders. However, a more detailed look reveals that the strengths and weaknesses of regions are very heterogeneous. Furthermore, only a few regions are central or peripheral in all dimensions. Many districts are in-between these poles and such a position is dynamic over time: change takes place, for example, when regional economic preconditions change.

In addition, different specializations can be observed. Whereas cities such as Innsbruck and Vienna focus on an analytical knowledge base, Graz and Linz score high on both the synthetic and the analytical knowledge base. Rural districts such as Reutte or Braunau am Inn also display above-average performance as far as these dimensions are concerned. Alpine regions, especially in Carinthia and Styria as well as in northern and south-eastern Austria, are frequently districts experiencing peripheralization in many dimensions. Here, policy makers face many challenges in tackling spatial inequality.

**Compensation strategies**

Although there are disadvantages associated with a peripheral location, innovative firms do establish themselves in rural areas. These firms pursue a wide array of compensation strategies to alleviate the challenges they encounter. First, the survey has shown that, in the absence of regional partners, firms strengthen their internal knowledge base and invest in the continued education of the labour force. Second, formal collaboration with suppliers, customers, and universities are important to ensure the inflow of external knowledge. Third, exchange that is more spontaneous is achieved at trade fairs and conferences, which serve as temporal clusters. Online virtual proximity increasingly complements these face-to-face formats. Fourth, a few firms have branch offices in central areas: should they not be able to find people with the necessary qualifications at their location, their branch offices provide access to a broader potential workforce. Finally, employer branding becomes more and more important at rural locations, enabling firms to be attractive for people from outside the region.

Whether a firm pursues compensation strategies on the one hand depends on the deficits of a region and on the concrete challenges that a firm encounters at its location. On the other hand, the business culture, the industry, and the subjective perception of a firm play a role. This means that while a few firms pursue many strategies, others selectively choose only a few.

**Exploitation strategies**

This is also confirmed for the exploitation strategies observed during the study, which illustrate how innovative firms leverage potentials at their location. First, many firms report that they feel protected, for example because undesired knowledge spill-overs take place only to a limited extent, which can be ascribed to the high level of loyalty displayed by the workforce. A few firms also mention protection from competitors and espionage. However, as these phenomena increasingly occur online, the importance of location diminishes in this regard. Second, major enterprises often find a high institutional leeway, which facilitates cooperation with municipalities or educational institutions, for example in lobbying for certain educational programmes.

Third, soft locational factors like a high quality of life are of relevance. The latter can be used in recruiting or in the marketing of products, if they align with regional attributes. Fourth, financial incentives like low property prices or low wage levels in combination with public subsidies are still relevant for the locational decisions of firms. In contrast, the respondents have not mentioned natural resources, which sometimes play a role for peripheral innovations in traditional sectors.

**Innovative firms in the periphery and their view on policy**

The presence of innovative firms in rural areas is an important factor for the attractiveness of such regions. Policy makers are committed to support them and most firms

describe their collaboration efforts on local and federal levels as productive. However, firms engage themselves to greatly varying degrees. While some firms are active in various boards on research and development, which includes informal contacts, other firms limit contact as much as possible and see little potential for collaboration.

Especially younger and smaller firms would like to see more exchange with policy makers, in combination with a better understanding for their innovative activities, which are often new in the region. Not all policy makers are in favour of such new ideas, although the diversification of the regional economy is an important contribution.

### **Policy recommendations and outlook**

Spatial inequality is on the increase, also in Austria. For many years, policy makers have aimed at fostering territorial cohesion, but now there are forces at work, which cannot be easily altered. Innovative firms can contribute to a successful regional development and as such, they can be supported in many ways. On the one hand, physical infrastructure, ensuring national and international accessibility, e.g. roads, airports, and broadband cables, is important. Educational institutions strengthening the regional knowledge base are also in demand.

On the other hand, a deep understanding of the strengths and weaknesses of a region as well as the needs of local firms is necessary in order to develop place-based policies. A holistic approach and the consideration of innovation models, which do rely on spatial concentration, contribute to a higher accuracy of such policies. They cannot guarantee success either, but such tailor-made approaches are more promising than concepts that are based on the experiences of cities.

Developments like digitization, demographic change, and rural-urban-migration will continue to challenge rural areas in the future. However, many of these regions do possess the potential to overcome the challenges, and innovation in new industries can contribute to create another main pillar of the regional economy in addition to tourism and agriculture. A new, positive narrative for rural areas could contribute to establishing a more modern image for such areas.

